Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Industrial Wastewater

BWP IW 38 & BWP IW 39

Permit for Industrial Sewer User

W204098
Transmittal Number

Facility ID# (if known)

DEP Use Only

Date Received

Important Instructions for Completing This Form

The questions on this form apply to existing and new facilities discharging industrial wastewater to sewers. If you are completing this form for an existing facility, answer the questions as they apply to its current status. If you are completing this form for a new facility, your answers will reflect your commitment to comply with the requirements as set forth in each question.

Existing facilities are defined as facilities in existence as of July 12, 2007. New facilities are defined as facilities constructed after July 12, 2007.

Answer all questions, except those that you are directed to skip. Please DO NOT answer questions that you are directed to skip

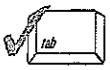
Permit Category (Select One)

☒ BWP IW 38: Industrial Sewer User in IPP POTW discharging more than 50,000 GPD

☐ BWP IW 39: Industrial Sewer User in Non-IPP POTW discharging more than 25,000 GPD

A. Facility Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Kopin Corporation
1a. Facility Name

125 North Drive
1b. Facility Address 1

1c. Facility Address 2

Westborough	MA	01581
1d. City	1e. State	1f. Zip Code

508-824-6696	508-824-6528
1g. Phone Number	1h. Fax Number

04-2833935
1i. Federal Employer Tax Identification Number (FEIN or TIN)

Mailing Address: ☐ Check here if same as Facility Address and skip to Contact Information.

Kopin Corporation
2a. Mailing Address: Street or P.O. Box

200 John Hancock Road
2b. Mailing Address 2

Taunton	MA	02780
2c. City	2d. State	2e. Zip Code

Contact Information:

William Brissette
3a. Contact Person Name

Facilities Manager
3b. Contact Person Title

508-824-6696	614
3c. Phone Number	3d. Extension

bill_brissette@kopin.com
3e. Email Address

B. Industrial Wastewater Information

1. Project Description (Check All That Apply)

☐ 1a. New Construction

☐ 1b. Permit Renewal

☐ 1c. Increasing Flow From Existing Connection

☐ 1d. New or Modified Industrial Wastewater Pretreatment System (IWPS)

☒ 1e. Existing Unpermitted Connection (Constructed Before 7/12/07)

2. List, in descending order of significance, the Standard Industrial Classification (SIC) codes, which best describe the facility producing the discharge in terms of the principal products or services provided. Also, specify each classification title. (See Appendix B in the Instructions)

3674 2a. SIC Code	Semi-Conductor and related devices Description
2b. SIC Code	Description
2c. SIC Code	Description
2d. SIC Code	Description

3. List all sewer connection(s) and their maximum daily flow(s) in gallons per day (GPD) from your facility going to the Publicly Owned Treatment Works (POTW):
See Attachment 1

	1 3a. Connection #	3b. Connection #	3c. Connection #	3d. Total Flow, All Connections
SANITARY	2,000 GPD	GPD	GPD	2,000 GPD
INDUSTRIAL	76,000 GPD	GPD	GPD	76,000 GPD
TOTAL	78,000 GPD	GPD	GPD	78,000 GPD

4. Are you in compliance with the Massachusetts Historical Commission requirements?

☒ Yes ☐ No* *If No, You Must Comply With Massachusetts Historical Commission Requirements **BEFORE** You Can Submit This Application.

5. Are you in compliance with Massachusetts Environmental Policy Act (MEPA) requirements?

☒ Yes ☐ No* *If No, You Must Comply With MEPA Requirements **BEFORE** You Can Submit This Application.

B. Industrial Wastewater Information (continued)

6. Check all pollutants that are present in your industrial wastewater **before** pretreatment, or if not treated, before discharge: **See Attachment 2**

☒ 6a. Metals, Asbestos, Cyanide, Phenols

If Metals, Asbestos, Cyanide, or Phenols are present, provide concentrations in milligrams per liter (mg/L):

1. Antimony (total) (Sb)	mg/L	9. Nickel (total) (Ni)	mg/L
2. Arsenic (total) (As)	mg/L	10. Selenium (total) (Se)	mg/L
3. Beryllium (total) (Be)	mg/L	11. Silver (total) (Ag)	mg/L
4. Cadmium (total) (Cd)	mg/L	12. Thallium (total) (Tl)	mg/L
5. Chromium (hexavalent)	mg/L	13. Zinc (total) (Zn)	mg/L
6. Chrome (total) (Cr)	mg/L	14. Asbestos	mg/L
7. Copper (total) (Cu)	mg/L	15. Cyanide (total) (CN)	mg/L
8. Lead (total) (Pb)	mg/L	16. Phenols (total)	mg/L

☐ 6b. Toxic Pollutants (See Section 17B in the Instructions.)

If Toxic Pollutants are present, provide the total Toxic Pollutants concentration in micrograms per liter (ug/L):

6b1. Total Toxic Pollutants Concentration (ug/L)

NOTE: Use the **Toxic Pollutants Form** to list individual toxic chemicals and their concentrations.

☐ 6c. Total Petroleum Hydrocarbons (TPH) > 15 mg/L

☐ 6d. pH <5 and >10 Standard Units (S.U)

☐ 6e. Other*

*If Other Pollutants are present, describe them:

See Attachment 2 for Analytical Results.

B. Industrial Wastewater Information (continued)

7. Is Mercury (Hg) present in your industrial wastewater **before** pretreatment, or if not treated, before discharge?

☐ Yes ☒ No* *If No, skip to Question 8.

7a. If Yes, have you identified all possible mercury sources and taken all reasonable steps to eliminate the mercury?

☐ Yes* ☐ No *If Yes, skip to Question 8.

7b. If No, explain why.

NOTE: As of May 1, 2009, all facilities must meet a discharge limit of 1 part per billion (ppb) for Mercury.

8. What is the name of the Publicly Owned Treatment Works (POTW) that receives your wastewater? (See Appendix C in the Instructions.)

Veolia Water / Town of Westborough
Name of POTW

9. Do you have a current sewer connection discharge permit or a current written approval issued by your local POTW? (See Section 17B in the Instructions.)

☒ Yes ☐ No* *If No, you must obtain either a permit or, if a permit is not required, a written approval from your local POTW to discharge **BEFORE** you can submit this application.

If you have a permit, provide the following information, then skip to Question 10.

POTW Permit - #280
9a. Permit Number

2/28/10
9b. Permit Expiration Date

If you have a written approval, provide the following information:

9c. Date of Approval Letter

9d. Name of Person Who Signed the Letter

10. Are your POTW and local Sewer Authority the same entity? (See Section 17B in the Instructions.)

☒ Yes* ☐ No *If Yes, skip to Question 12.

B. Industrial Wastewater Information (continued)

11. Do you have a current sewer connection discharge permit or a current written approval issued by your local Sewer Authority? (See Section 17B in the Instructions.)

☐ Yes ☐ No* If No, you must obtain either a permit or written approval from your local Sewer Authority to discharge **BEFORE** you can submit this application.

If you have a permit, provide the following information, then skip to Question 12.

11a. Permit Number

11b. Permit Expiration Date

If you have a written approval, provide the following information:

11c. Date of Approval Letter

11d. Name of Person Who Signed the Letter

12. Is your facility currently classified as a Categorical Industrial User (CIU) pursuant to Federal Regulations? (See Appendix D in the Instructions.)

☒ Yes ☐ No* *If No, skip to Section C.

12a. List all the Categorical Pretreatment Standards applicable to your facility.

469	Electrical and Electronic Components
12a1. Part Number	Point Source Category
12a2. Part Number	Point Source Category
12a3. Part Number	Point Source Category
12a4. Part Number	Point Source Category

C. Industrial Wastewater Pretreatment System

1. Do you have an on-site industrial wastewater pretreatment system (IWPS) to treat your industrial wastewater?

☒ Yes ☐ No* *If No, skip to Section D.

1a. How many IWPSs do you have?

1
Number

NOTE: If you have more than one IWPS, please use an **Additional IWPS Form** for each additional IWPS.

1b. Provide a unique identifier (i.e. name) for this IWPS:

Kopin Wastewater Treatment System
Identifier/Name

C. Industrial Wastewater Pretreatment System (continued)

1c. What is the Total Design Capacity of this IWPS?

100,000 - From original system design
Gallons Per Day

1d. What is the Average Daily Flow of this IPWS? (Estimate if this is a new facility.)

31,000 - Calculated from daily water use - See Attachment 1

1e. What is the Maximum Daily Flow of this IWPS? (Estimate if this is a new facility.)

70,000 - estimated based on production flows

2. Is your IWPS designed and constructed to meet all local discharge standards and the applicable Categorical Industrial User (CIU) standards in 40 CFR Chapter I, Subchapter N?

☒ Yes ☐ No* *If No, you must take immediate steps to address the non-compliance **BEFORE** you can submit this application.

3. Does this IWPS treat hazardous industrial wastewater or hazardous industrial wastewater sludge as defined in 314 CMR 7.02?

☒ Yes ☐ No* *If No, skip to Question 12.

3a. Are you treating concentrated chemical baths, e.g. spent chemical baths, or off-specification products?

☒ Yes ☐ No* *If No, skip to Question 4.

3b. If Yes, describe the concentrated chemical baths you are treating.
Acid waste streams are discharged, via hard piping, to a 500-gallon Acid Waste Transfer Tank. Acid waste from this tank is then metered into the treatment system where it is neutralized and then undergoes metals precipitation treatment

4. Does your IWPS meet the requirements of "treatment which is an integral part of the manufacturing process" as defined in 310 CMR 30.010?

☒ Yes* ☐ No *If Yes, skip to Question 7.

5.Do you store hazardous industrial wastewater or hazardous industrial wastewater sludge that is generated in your IWPS or in your production processes, in tanks or containers?

Note: If you use in-ground tanks for storage of hazardous industrial wastewater or sludge and your IWPS is located in a Drinking Water Zone (see Section 17C of the Instructions; reference language in 310 CMR 30.605), you are not eligible to apply for a BWP IW 38 or BWP IW 39 permit. You must use form BWP IW 40 instead.

☐ Yes ☐ No* *If No, skip to Question 7.

C. Industrial Wastewater Pretreatment System (continued)

6. Are you in compliance with the requirements for tanks and containers in 310 CMR 30.342 and 343? (See Section 17C in the Instructions)

☐ Yes ☐ No* *If No, you must take immediate steps to address the non-compliance **BEFORE** you can submit this application.

7. Do you have a U.S. Environmental Protection Agency (EPA) hazardous waste generator identification number?

☒ Yes ☐ No* *If No, skip to Question 7b.

7a. What is your EPA identification number?

MA5000000406 Skip to Question 8.
EPA ID #

7b. Explain why you do not have an EPA identification number.

8. Do you have a visible sign in place that warns against unauthorized entry into the IWPS area?

☒ Yes* ☐ No *If Yes, skip to Question 9.

8a. Explain why you do not have a visible sign in place.

9.Do you have the required spill containment for the IWPS? (See Section 17C in the Instructions.)

☒ Yes* ☐ No *If Yes, skip to Question 10.

9a. Explain why you do not have the required spill containment.

10. Is your IWPS located on land subject to flooding from a 100-year storm? (See Section 17C in the Instructions.)

☐ Yes ☒ No* *If No, skip to Question 12.

C. Industrial Wastewater Pretreatment System (continued)

11. Are you in compliance with the flood-proofing provisions in 310 CMR 30.701(2)? (See Section 17C in the Instructions.)

☐ Yes ☐ No* *If Yes, skip to Question 12.

11a. Explain why you are not in compliance with the flood-proofing provisions in 310 CMR 30.701(2).

12. What type of IWPS do you have? (Check all that apply.)

☐ Fully Automated Industrial Wastewater Pretreatment System (FAIWPS)

☒ Continuous Discharge IWPS ☐ Batch IWPS

13. Is the IWPS exempt from classification? (See Section 17C in the Instructions.)

☐ Yes* ☒ No *If Yes, skip to Question 14.

13a. What is the classification of this IWPS? (See 257 CMR 2.13: Classification of Wastewater Treatment Facilities.)

☐ Class 1I ☒ Class 2I ☐ Class 3I

☐ Class 4I ☐ Class 5 or 6C ☐ Class 1M

☐ Class 2M ☐ Class 3M ☐ Class 4M

13b. How was the IWPS' classification determined?

☐ In accordance with the requirements in 314 CMR 7.05(2)(g) 4. c. or d.

☒ By the Board of Certification of Operators of Wastewater Treatment Facilities **Approval Pending**

☐ Both

14. Is the IWPS staffed in accordance with the requirements of 314 CMR 7.05(2)(g) 5? (See Section 17C in the Instructions.)

☒ Yes* ☐ No *If Yes, skip to Question 15.

C. Industrial Wastewater Pretreatment System (continued)

14a. Explain why the IWPS is not staffed in accordance with 314 CMR 7.05(2)(g) 5.

15. Is this your first permit application under Permit Category BWP IW 38 or BWP IW 39 for this IWPS? Or, is this application a request for modification of this IWPS that currently has a BWP IW 38 or BWP IW 39 permit?

☒ Yes* ☐ No *If Yes, you need to submit as an attachment the process flow diagram and description of the principal treatment processes for your IWPS. Otherwise, skip to Question 17.

16. How many attachments are included with this application in response to Question 15?

2 - See Attachments 4 & 5
Number of Attachments

17. Have your sewer connection and IWPS been designed and constructed in compliance with the design and construction standards as set forth in 314 CMR 7.05(2)(g)3?

☒ Yes ☐ No* *If No, skip to Question 17b.

17a. What is the Massachusetts Registered Professional Engineer (MAPE) signature date on the engineering plans?

7/16/86
Date

Skip to Question 18.

17b. Explain why your sewer connection and IWPS have not been designed and constructed in compliance with the design and construction standards as set forth in 314 CMR 7.05(2)(g)3.

18. Provide the following information about the Massachusetts Registered Professional Engineer (MAPE) who reviewed, stamped, and signed your engineering plans:

Boyd C. Wagner
18a. Name

N/A
18b. Phone Number

27598
18c. Mass. P.E. License Number

Electrical Engineer
18d. Mass. P.E. Specialty

C. Industrial Wastewater Pretreatment System (continued)

19. Do you have an IWPS operation and maintenance manual that complies with the procedures and other requirements in 314 CMR 7.05(2)(g)6.?

☐ Yes* ☒ No *If Yes, skip to Question 20.

19a. Explain why you do not have the required IWPS operation and maintenance manual.

Kopin has an O&M that provides detailed information related to the system operations, however additional information must be included to meet the requirements of 314 CMR 7.05(2(g)6. Kopin is in the process of updating the Operation and Maintenance Manual for the existing system.

20. Are you keeping your IWPS operation and maintenance manual current?

☒ Yes ☐ No

21. Are you implementing your IWPS operation and maintenance manual?

☒ Yes ☐ No

D. Monitoring, Reporting & Recordkeeping

1. Are you keeping your currently effective sewer discharge permit(s), IWPS plan(s), and current operation and maintenance manual(s) (as applicable) on-site at all times?

☒ Yes* ☐ No * If Yes, skip to Question 2.

1a. Explain why you are not keeping these records on-site at all times.

2. Are you keeping all your required records including your wastewater monitoring and analyses records, operation and maintenance records and logs, bills of lading, summary reports of all incidents requiring implementation of the safety plan, and hazardous waste manifests (as applicable) on-site for at least three years?

☒ Yes* ☐ No * If Yes, skip to Question 3.

2a. Explain why you are not keeping these records on-site for at least three years.

D. Monitoring, Reporting & Recordkeeping (continued)

3. [Reserved for Toxics Reporting]

Additional reporting requirements will be added to this section in the future.

E. General & Specific Prohibitions

1. After carefully reviewing all of the general and specific prohibitions listed below, are you in compliance with these General and Specific Prohibitions?

☒ Yes* ☐ No *If Yes, read Section F and then complete Section G.

1a. Identify all the prohibitions you are not in compliance with and explain why. Attach an additional sheet of paper to this form, if necessary.

1. General Prohibitions. The permittee shall not:

a. Discharge, or cause to be discharged to a POTW, any substances, materials, or wastewater that may:

i. harm the sewers, POTW wastewater treatment process or equipment;
ii. have an adverse impact on the receiving waters; or
iii. otherwise create a nuisance or endanger public health, safety, or the environment.

b. Introduce pollutants into POTWs that pass through the POTW or interfere with its operation or performance.

c. Discharge wastewater or allow discharge of wastewater through any sewer connection that would result in a hazard to the public health or safety.

d. Discharge bypass wastewater or allow discharge of bypass wastewater through any sewer connection. If bypassing due to an emergency condition occurs, the Department and POTW shall be notified in accordance with 314 CMR 7.04(3). Such notification or its acknowledgement shall not be construed as permission by the Department or POTW to discharge bypass wastewater.

e. Discharge hazardous waste or allow the discharge of hazardous waste through any sewer connection.

2. Specific Prohibitions. The permittee shall not introduce into a POTW or its wastewater collection system the following:

a. Pollutants which may create a fire, explosion, or other hazard in the POTW or its wastewater collection system.

b. Pollutants which may cause corrosive structural damage to the POTW or its wastewater collection system. In no case shall discharges with a pH lower than 5.0 Standard Unit (S.U) or more than 10.0 S.U. be allowed, unless the local limit allows such discharges.

c. Solid or viscous pollutants in amounts which may cause obstruction to the flow in the POTW or its wastewater collection system or may result in interference.

d. Any pollutant, including oxygen-demanding pollutants, discharged at a flow rate or pollutant

F. Additional Conditions

a. All discharges shall be in compliance with the terms and conditions of this permit. The discharge of any wastewater at a level in excess of that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit. Such a violation may result in the imposition of civil and/or criminal penalties as provided for in M.G.L. c.21, Section 42.

b. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

i. Violation of any terms or conditions of the permit;

ii. Obtaining a permit by misrepresentation or failure to disclose fully all relevant facts; or

iii. A change in conditions or the existence of a condition, which requires either a temporary or permanent reduction, or elimination of the authorized discharge.

c. The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges; nor does it authorize or relieve the permittee of any liability for any injury to private property or any invasion of personal rights; nor any infringement of Federal, State, or local laws or regulations; nor does it waive the necessity of obtaining any local assent required by law for the discharge authorized herein by the Department.

d. The provisions of this permit are severable, and the invalidity of any condition or subdivision thereof shall not make void any other condition or subdivision thereof.

e. All information and data provided by an applicant or a permittee identifying the nature and frequency of a discharge shall be available to the public without restriction. All other information (other than effluent data) which may be submitted by an applicant in connection with a permit application shall also be available to the public unless the applicant or permittee is able to demonstrate that the disclosure of such information or particular part thereof to the general public would divulge methods or processes entitled to protection as trade secrets in accordance with the provisions of M.G.L. c.21, Section.27(7). Where the applicant or permittee is able to so demonstrate, the Department shall treat the information or the particular part (other than effluent data) as confidential and not release it to any unauthorized person. Such information may be divulged to other officers, employees, or authorized representatives of the Commonwealth or the United States Government concerned with the protection of public water or water supplies.

f. Transfer of Permits. Any sewer system connection permit authorizing an industrial discharge to a sewer system is only valid for the person to whom it is issued, unless prior to transfer:

i. The current permittee notifies the Department in writing at least 30 days in advance of the proposed transfer date; and

ii. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibilities, and liability to the new permittee.

g. This permit authorizing the discharge expires five (5) years from the date of issuance. The permittee shall apply for a renewal of this permit at least ninety (90) days prior to the expiration date, in accordance with 314 CMR 7.09(3)(b) for continued lawful discharges beyond the expiration date.

h. All solids, sludge, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be collected, treated, and disposed of in accordance with applicable provisions in the following:

i. Hazardous waste regulations (310 CMR 30.000).

ii. Solid waste regulations (310 CMR 19.00).

iii. Sewer discharge regulations (314 CMR 7.00).

iv. Any other applicable federal, state and local laws.

i. All samples shall be analyzed by a Massachusetts Certified Laboratory.

j. The permittee shall provide the Department, and the Department's employees, authorized representatives and contractors, access at to the facility at all reasonable times, including during

G. Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true accurate, and complete. I certify that this facility is in compliance with all conditions and requirements of this permit, and all applicable statutes and regulations. I further certify that systems to maintain compliance are in place at the facility or unit and will be maintained even if processes or operating procedures are changed. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment of knowing violations."

(I will be responsible for publication of public notice of the applicable permit proceedings identified under 314 CMR 2.06(1)(a) through (d).)

William Brissette
Printed Name of Applicant

Facilities Manager
Title

Signature of Applicant

1/30/08
Date Signed

Wayne E. Bates, PhD, PE
Name of Preparer

Engineering Manager
Title

508-970-0033
Phone Number

MassDEP Use Only

Special Conditions:

See Attachment A

This document is a permit issued pursuant to Massachusetts General Laws, Chapter 21, Section 43 and Massachusetts regulations at 314 CMR 7.00. The permittee shall comply with all of the provisions contained in the permit application which are hereby incorporated and made part of this permit.

Date Issued

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention – Industrial Wastewater

BWP IW 38 & BWP IW 39

Permit for Industrial Sewer User

W204098
Transmittal Number

Facility ID# (if known)

Permit Effective Date

Permit Expiration Date

Name of Regional BWP Section Chief

Signature

ATTACHMENT A

Special Conditions:

1. The permittee shall maintain compliance with the Town of Westborough's sewer use requirements and the terms and conditions of any applicable wastewater discharge permits issued by the Westborough-Shrewsbury Wastewater Treatment Plant.

2. The permittee shall comply with the Effluent Guidelines and Standards at 40 CFR, Chapter I, Subchapter N, Part 469 – Electrical and Electronic Components Point Source Category, and applicable subcategories.

3. The permittee shall notify MassDEP of additional Effluent Guidelines and Standards as they are determined to be applicable to the facility.

4. The Specific Prohibitions on Page 11 shall include at the end of part d., "concentration that will cause interference with the POTW or its wastewater collection system." and "e. Heat in amounts which may inhibit biological activity in the POTW, resulting in interference. In no case shall heat in such quantities that the temperature at the POTW treatment plant exceeds 40^0 C (104^0 F) be discharged, unless the Department, upon request o f the POTW, approves alternate temperature limits."

5. The Additional Conditions on Page 12 shall include at the end of part j., "wastewater treatment system operation or wastewater discharge, for purposes of conducting activities related to oversight of this permit, including inspections to monitor compliance with the terms herein. The permittee shall allow the Department to obtain information related to compliance with the requirements of this permit. Notwithstanding any provision of this permit, the Department retains all of its access authorities and rights under applicable state and federal law.

6. The documents and materials attached to and referenced in the permit application are incorporated as part of the permit.

Attachment 1
Sewer Connection Information and Flow Calculations

Kopin Corporation - Westborough, MA
Flow Calculations

Water Record Information

Date of Meter Reading	Days Between Readings	Water Use - cubic feet	Water Use - gallons	Ave. Daily Flow - gpd	
6/1/2004		769,800	5,758,104		
12/16/2004	198	1,007,000	7,532,360	38,042	
6/1/2005	167	885,000	6,619,800	39,640	
12/6/2005	188	1,210,000	9,050,800	48,143	
6/18/2006	194	828,000	6,193,440	31,925	6 Mos. Billing
			7,030,901	**39,437**	Average Daily
8/17/2006	60	318,000	2,378,640	39,644	
11/15/2006	90	400,000	2,992,000	33,244	
2/20/2007	97	404,000	3,021,920	31,154	
5/18/2007	87	428,000	3,201,440	36,798	
8/16/2007	90	649,000	4,854,520	53,939	Quarterly Billing
			3,289,704	**38,956**	Average Daily

Average Daily Facility Flow based on Water Records (rounded to nearest 1,000 gpd) **39,000** gpd based on 7-day operations

Flow Calculations

Calculate Sanitary Flow (B.3.a)

Max Domestic Use per Employee	20	gpd/person
Employees	100	people
Sanitary Use (max)	**2,000**	gpd (used for Section B.3.a)

Calculate Max Facility Flow (B.3.a)

Average Daily Facility Flow (see above)	39,000	gpd
Max Facility Flow - Peaking Factor	2	peaking factor
Max Facility Flows	**78,000**	gpd

Calculate Max Industrial Flow (B.3.a)

Max Facility Flows	78,000	gpd
Sanitary Use (max)	2,000	gpd
Max Industrial Flow (with cooling water)	**76,000**	gpd (used for Section B.3.a)

Calculate Average Daily Flow to IWPS#1 (C.1.d)

Average Daily Facility Flow	39,000	gpd
Sanitary Flow	2,000	gpd
Cooling Tower Flow	6,000	gpd
Ave Daily Flow to IWPS#1	**31,000**	gpd (used for Section C.1.d)

Calculate Max Daily Flow to IWPS#1 (C.1.e)

Max Industrial Flow (with cooling water)	76,000	gpd
Cooling Tower Use (max)	6,000	gpd
Max Industrial Flow (w/out cooling water)	**70,000**	gpd (used for Section C.1.e)

Attachment 2
Laboratory Analytical Results

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220 www.alphalab.com
MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Capaccio Environmental Engineering
Address: 293 Boston Post Road
Marlboro, MA 01752
Attn: Mr. Wayne Bates
Project Number:

Laboratory Job Number: L0719017
Date Received: 21-DEC-2007
Date Reported: 15-JAN-2008
Delivery Method:
Site: KOPIN CORP-UNTREATED WASTEWATE

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0719017-01	EQUALIZATION TANK COMPOSITE	125 NORTH DR, WESTBORO
L0719017-02	EQUALIZATION TANK GRAB	125 NORTH DR, WESTBORO

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized by: Michelle M. Morris
Technical Representative

ALPHA ANALYTICAL LABORATORIES
NARRATIVE REPORT

Laboratory Job Number: L0719017

The samples were received in accordance with the chain of custody and no significant deviations were encountered during preparation or analysis unless otherwise noted below.

Volatile Organics

L0719017-02 has elevated detection limits due to the 25x dilution required by the sample matrix.

Semivolatile Organics

L0719017-01 has elevated detection limits due to the 5x dilution required by the elevated concentrations of target compounds in the sample.

TPH

L0719017-01 and the WG307182-3 laboratory duplicate were re-analyzed on 10x dilutions due to target compounds above the calibration range on the original analyses. The results of the re-analyses are reported.

The WG307182-3 laboratory duplicate RPD is above method acceptance criteria.

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0719017-01
Sample Matrix: EQUALIZATION TANK COMPOSITE WATER

Date Collected: 21-DEC-2007 11:15
Date Received : 21-DEC-2007
Date Reported : 15-JAN-2008

Condition of Sample: Satisfactory
Field Prep: None

Number & Type of Containers: 6-Amber,3-Plastic

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Cyanide, Total	ND	mg/l	0.005	30 4500CN-CE	1226 16:10	1227 21:48	DD
Phenolics, Total	0.10	mg/l	0.03	4 420.1		1228 19:20	TH
Chromium, Hexavalent	ND	mg/l	0.010	30 3500CR-D	1221 20:00	1221 20:00	HS
Total Metals				19 200.7			
Antimony, Total	ND	mg/l	0.050	19 200.7	0106 13:00	0109 10:36	AI
Arsenic, Total	ND	mg/l	0.005	19 200.7	0106 13:00	0109 10:36	AI
Beryllium, Total	ND	mg/l	0.005	19 200.7	0106 13:00	0109 10:36	AI
Cadmium, Total	ND	mg/l	0.005	19 200.7	0106 13:00	0109 10:36	AI
Chromium, Total	ND	mg/l	0.01	19 200.7	0106 13:00	0109 10:36	AI
Copper, Total	ND	mg/l	0.010	19 200.7	0106 13:00	0109 10:36	AI
Lead, Total	ND	mg/l	0.010	19 200.7	0106 13:00	0109 10:36	AI
Nickel, Total	ND	mg/l	0.025	19 200.7	0106 13:00	0109 10:36	AI
Selenium, Total	ND	mg/l	0.010	19 200.7	0106 13:00	0109 10:36	AI
Silver, Total	ND	mg/l	0.007	19 200.7	0106 13:00	0109 10:36	AI
Thallium, Total	ND	mg/l	0.020	19 200.7	0106 13:00	0109 10:36	AI
Zinc, Total	ND	mg/l	0.050	19 200.7	0106 13:00	0109 10:36	AI
SVOC's by GC/MS 625				5 625	1227 16:10	1231 11:27	PS
Acenaphthene	ND	ug/l	24.				
Benzidine	ND	ug/l	240				
1,2,4-Trichlorobenzene	ND	ug/l	24.				
Hexachlorobenzene	ND	ug/l	24.				
Bis(2-chloroethyl)ether	ND	ug/l	24.				
2-Chloronaphthalene	ND	ug/l	29.				
1,2-Dichlorobenzene	ND	ug/l	24.				
1,3-Dichlorobenzene	ND	ug/l	24.				
1,4-Dichlorobenzene	ND	ug/l	24.				
3,3'-Dichlorobenzidine	ND	ug/l	240				
2,4-Dinitrotoluene	ND	ug/l	29.				
2,6-Dinitrotoluene	ND	ug/l	24.				
Azobenzene	ND	ug/l	24.				
Fluoranthene	ND	ug/l	24.				
4-Chlorophenyl phenyl ether	ND	ug/l	24.				
4-Bromophenyl phenyl ether	ND	ug/l	24.				
Bis(2-chloroisopropyl)ether	ND	ug/l	24.				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0719017-01
EQUALIZATION TANK COMPOSITE

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
SVOC's by GC/MS 625 cont'd				5	625	1227 16:10	1231 11:27	PS
Bis(2-chloroethoxy)methane	ND	ug/l	24.					
Hexachlorobutadiene	ND	ug/l	48.					
Hexachlorocyclopentadiene	ND	ug/l	140					
Hexachloroethane	ND	ug/l	24.					
Isophorone	ND	ug/l	24.					
Naphthalene	ND	ug/l	24.					
Nitrobenzene	ND	ug/l	24.					
NDPA/DPA	ND	ug/l	72.					
n-Nitrosodi-n-propylamine	ND	ug/l	24.					
Bis(2-ethylhexyl)phthalate	ND	ug/l	24.					
Butyl benzyl phthalate	ND	ug/l	24.					
Di-n-butylphthalate	ND	ug/l	24.					
Di-n-octylphthalate	ND	ug/l	24.					
Diethyl phthalate	24	ug/l	24					
Dimethyl phthalate	ND	ug/l	24.					
Benzo(a)anthracene	ND	ug/l	24.					
Benzo(a)pyrene	ND	ug/l	24.					
Benzo(b)fluoranthene	ND	ug/l	24.					
Benzo(k)fluoranthene	ND	ug/l	24.					
Chrysene	ND	ug/l	24.					
Acenaphthylene	ND	ug/l	24.					
Anthracene	ND	ug/l	24.					
Benzo(ghi)perylene	ND	ug/l	24.					
Fluorene	ND	ug/l	24.					
Phenanthrene	ND	ug/l	24.					
Dibenzo(a,h)anthracene	ND	ug/l	24.					
Indeno(1,2,3-cd)pyrene	ND	ug/l	33.					
Pyrene	ND	ug/l	24.					
Aniline	ND	ug/l	96.					
4-Chloroaniline	ND	ug/l	24.					
1-Methylnaphthalene	ND	ug/l	24.					
2-Nitroaniline	ND	ug/l	24.					
3-Nitroaniline	ND	ug/l	24.					
4-Nitroaniline	ND	ug/l	33.					
Dibenzofuran	ND	ug/l	24.					
2-Methylnaphthalene	ND	ug/l	24.					
n-Nitrosodimethylamine	ND	ug/l	240					
2,4,6-Trichlorophenol	ND	ug/l	24.					
p-Chloro-m-cresol	ND	ug/l	24.					
2-Chlorophenol	ND	ug/l	29.					
2,4-Dichlorophenol	ND	ug/l	48.					
2,4-Dimethylphenol	ND	ug/l	48.					
2-Nitrophenol	ND	ug/l	96.					
4-Nitrophenol	ND	ug/l	48.					
2,4-Dinitrophenol	ND	ug/l	140					
4,6-Dinitro-o-cresol	ND	ug/l	96.					
Pentachlorophenol	ND	ug/l	48.					
Phenol	ND	ug/l	33.					
2-Methylphenol	ND	ug/l	29.					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0719017-01
EQUALIZATION TANK COMPOSITE

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
SVOC's by GC/MS 625 cont'd				5	625	1227 16:10	1231 11:27	PS
3-Methylphenol/4-Methylphenol	ND	ug/l	29.					
2,4,5-Trichlorophenol	ND	ug/l	24.					
2,6-Dichlorophenol	ND	ug/l	48.					
Benzoic Acid	ND	ug/l	240					
Benzyl Alcohol	890	ug/l	48					
Carbazole	ND	ug/l	24.					
Surrogate(s)	Recovery		QC Criteria					
2-Fluorophenol	41.0	%	21-120					
Phenol-d6	38.0	%	10-120					
Nitrobenzene-d5	85.0	%	23-120					
2-Fluorobiphenyl	90.0	%	43-120					
2,4,6-Tribromophenol	62.0	%	10-120					
4-Terphenyl-d14	101	%	33-120					
Petroleum Hydrocarbon Quantitation by GC-FID				1	8015B(M)	1228 12:10	1229 12:17	MF
TPH	40600	ug/l	5320					
Surrogate(s)	Recovery		QC Criteria					
o-Terphenyl	75.0	%	40-140					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0719017-02
Sample Matrix: EQUALIZATION TANK GRAB WATER
Condition of Sample: Satisfactory
Number & Type of Containers: 2-Vial

Date Collected: 21-DEC-2007 11:15
Date Received : 21-DEC-2007
Date Reported : 15-JAN-2008
Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Volatile Organics by GC/MS 624							
Methylene chloride	ND	ug/l	120	5 624		1228 11:23	MM
1,1-Dichloroethane	ND	ug/l	38.				
Chloroform	ND	ug/l	38.				
Carbon tetrachloride	ND	ug/l	25.				
1,2-Dichloropropane	ND	ug/l	88.				
Dibromochloromethane	ND	ug/l	25.				
1,1,2-Trichloroethane	ND	ug/l	38.				
2-Chloroethylvinyl ether	ND	ug/l	250				
Tetrachloroethene	ND	ug/l	38.				
Chlorobenzene	ND	ug/l	88.				
Trichlorofluoromethane	ND	ug/l	120				
1,2-Dichloroethane	ND	ug/l	38.				
1,1,1-Trichloroethane	ND	ug/l	50.				
Bromodichloromethane	ND	ug/l	25.				
trans-1,3-Dichloropropene	ND	ug/l	38.				
cis-1,3-Dichloropropene	ND	ug/l	38.				
Bromoform	ND	ug/l	25.				
1,1,2,2-Tetrachloroethane	ND	ug/l	25.				
Benzene	ND	ug/l	25.				
Toluene	ND	ug/l	25.				
Ethylbenzene	ND	ug/l	25.				
Chloromethane	ND	ug/l	250				
Bromomethane	ND	ug/l	120				
Vinyl chloride	ND	ug/l	50.				
Chloroethane	ND	ug/l	50.				
1,1-Dichloroethene	ND	ug/l	25.				
trans-1,2-Dichloroethene	ND	ug/l	38.				
cis-1,2-Dichloroethene	ND	ug/l	25.				
Trichloroethene	ND	ug/l	25.				
1,2-Dichlorobenzene	ND	ug/l	120				
1,3-Dichlorobenzene	ND	ug/l	120				
1,4-Dichlorobenzene	ND	ug/l	120				
p/m-Xylene	ND	ug/l	50.				
o-xylene	ND	ug/l	25.				
Xylene (Total)	ND	ug/l	50.				
Styrene	ND	ug/l	25.				
Acetone	360	ug/l	250				
Carbon disulfide	ND	ug/l	120				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0719017-02
EQUALIZATION TANK GRAB

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Volatile Organics by GC/MS 624 cont'd				5 624		1228 11:23	MM
2-Butanone	ND	ug/l	250				
Vinyl acetate	ND	ug/l	500				
4-Methyl-2-pentanone	ND	ug/l	250				
2-Hexanone	ND	ug/l	250				
Acrolein	ND	ug/l	200				
Acrylonitrile	ND	ug/l	250				
Surrogate(s)	Recovery		QC Criteria				
Pentafluorobenzene	98.0	%	80-120				
Fluorobenzene	107	%	80-120				
4-Bromofluorobenzene	115	%	80-120				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220 www.alphalab.com
MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

CERTIFICATE OF ANALYSIS

Client: Capaccio Environmental Engineering
Address: 293 Boston Post Road
Marlboro, MA 01752
Attn: Mr. Wayne Bates
Project Number:

Laboratory Job Number: L0719015
Date Received: 21-DEC-2007
Date Reported: 08-JAN-2008
Delivery Method: Alpha
Site: KOPIN CORP-UNTREATED WASTEWATE

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0719015-01	RO REJECT COMPOSITE	125 NORTH DR, WESTBORO
L0719015-02	RO REJECT GRAB	125 NORTH DR, WESTBORO

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized by: Michelle M. Morris
Technical Representative

ALPHA ANALYTICAL LABORATORIES
NARRATIVE REPORT

Laboratory Job Number: L0719015

The samples were received in accordance with the chain of custody and no significant deviations were encountered during preparation or analysis unless otherwise noted below.

Report Submission

The Asbestos analysis was subcontracted and will be reported under separated cover when the results become available.

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0719015-01
RO REJECT COMPOSITE
Sample Matrix: WATER

Date Collected: 21-DEC-2007 11:00
Date Received : 21-DEC-2007
Date Reported : 08-JAN-2008

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 6-Amber,3-Plastic

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
Cyanide, Total	ND	mg/l	0.005	30	4500CN-CE	1226 16:10	1227 21:45	DD
Phenolics, Total	ND	mg/l	0.03	4	420.1		1228 19:20	TH
Chromium, Hexavalent	ND	mg/l	0.010	30	3500CR-D	1221 20:00	1221 20:00	HS
Total Metals				19	200.7			
Antimony, Total	ND	mg/l	0.050	19	200.7	0106 13:00	0108 11:48	AI
Arsenic, Total	ND	mg/l	0.005	19	200.7	0106 13:00	0108 11:48	AI
Beryllium, Total	ND	mg/l	0.005	19	200.7	0106 13:00	0108 11:48	AI
Cadmium, Total	ND	mg/l	0.005	19	200.7	0106 13:00	0108 11:48	AI
Chromium, Total	ND	mg/l	0.01	19	200.7	0106 13:00	0108 11:48	AI
Copper, Total	ND	mg/l	0.010	19	200.7	0106 13:00	0108 11:48	AI
Lead, Total	ND	mg/l	0.010	19	200.7	0106 13:00	0108 11:48	AI
Nickel, Total	ND	mg/l	0.025	19	200.7	0106 13:00	0108 11:48	AI
Selenium, Total	ND	mg/l	0.010	19	200.7	0106 13:00	0108 11:48	AI
Silver, Total	ND	mg/l	0.007	19	200.7	0106 13:00	0108 11:48	AI
Thallium, Total	ND	mg/l	0.020	19	200.7	0106 13:00	0108 11:48	AI
Zinc, Total	0.116	mg/l	0.050	19	200.7	0106 13:00	0108 11:48	AI
SVOC's by GC/MS 625				5	625	1227 16:10	1228 19:39	PS
Acenaphthene	ND	ug/l	5.0					
Benzidine	ND	ug/l	50.					
1,2,4-Trichlorobenzene	ND	ug/l	5.0					
Hexachlorobenzene	ND	ug/l	5.0					
Bis(2-chloroethyl)ether	ND	ug/l	5.0					
2-Chloronaphthalene	ND	ug/l	6.0					
1,2-Dichlorobenzene	ND	ug/l	5.0					
1,3-Dichlorobenzene	ND	ug/l	5.0					
1,4-Dichlorobenzene	ND	ug/l	5.0					
3,3'-Dichlorobenzidine	ND	ug/l	50.					
2,4-Dinitrotoluene	ND	ug/l	6.0					
2,6-Dinitrotoluene	ND	ug/l	5.0					
Azobenzene	ND	ug/l	5.0					
Fluoranthene	ND	ug/l	5.0					
4-Chlorophenyl phenyl ether	ND	ug/l	5.0					
4-Bromophenyl phenyl ether	ND	ug/l	5.0					
Bis(2-chloroisopropyl)ether	ND	ug/l	5.0					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0719015-01
RO REJECT COMPOSITE

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
SVOC's by GC/MS 625 cont'd				5 625	1227 16:10	1228 19:39	PS
Bis(2-chloroethoxy)methane	ND	ug/l	5.0				
Hexachlorobutadiene	ND	ug/l	10.				
Hexachlorocyclopentadiene	ND	ug/l	30.				
Hexachloroethane	ND	ug/l	5.0				
Isophorone	ND	ug/l	5.0				
Naphthalene	ND	ug/l	5.0				
Nitrobenzene	ND	ug/l	5.0				
NDPA/DPA	ND	ug/l	15.				
n-Nitrosodi-n-propylamine	ND	ug/l	5.0				
Bis(2-ethylhexyl)phthalate	ND	ug/l	5.0				
Butyl benzyl phthalate	ND	ug/l	5.0				
Di-n-butylphthalate	ND	ug/l	5.0				
Di-n-octylphthalate	ND	ug/l	5.0				
Diethyl phthalate	ND	ug/l	5.0				
Dimethyl phthalate	ND	ug/l	5.0				
Benzo(a)anthracene	ND	ug/l	5.0				
Benzo(a)pyrene	ND	ug/l	5.0				
Benzo(b)fluoranthene	ND	ug/l	5.0				
Benzo(k)fluoranthene	ND	ug/l	5.0				
Chrysene	ND	ug/l	5.0				
Acenaphthylene	ND	ug/l	5.0				
Anthracene	ND	ug/l	5.0				
Benzo(ghi)perylene	ND	ug/l	5.0				
Fluorene	ND	ug/l	5.0				
Phenanthrene	ND	ug/l	5.0				
Dibenzo(a,h)anthracene	ND	ug/l	5.0				
Indeno(1,2,3-cd)pyrene	ND	ug/l	7.0				
Pyrene	ND	ug/l	5.0				
Aniline	ND	ug/l	20.				
4-Chloroaniline	ND	ug/l	5.0				
1-Methylnaphthalene	ND	ug/l	5.0				
2-Nitroaniline	ND	ug/l	5.0				
3-Nitroaniline	ND	ug/l	5.0				
4-Nitroaniline	ND	ug/l	7.0				
Dibenzofuran	ND	ug/l	5.0				
2-Methylnaphthalene	ND	ug/l	5.0				
n-Nitrosodimethylamine	ND	ug/l	50.				
2,4,6-Trichlorophenol	ND	ug/l	5.0				
p-Chloro-m-cresol	ND	ug/l	5.0				
2-Chlorophenol	ND	ug/l	6.0				
2,4-Dichlorophenol	ND	ug/l	10.				
2,4-Dimethylphenol	ND	ug/l	10.				
2-Nitrophenol	ND	ug/l	20.				
4-Nitrophenol	ND	ug/l	10.				
2,4-Dinitrophenol	ND	ug/l	30.				
4,6-Dinitro-o-cresol	ND	ug/l	20.				
Pentachlorophenol	ND	ug/l	10.				
Phenol	ND	ug/l	7.0				
2-Methylphenol	ND	ug/l	6.0				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0719015-01
RO REJECT COMPOSITE

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATE PREP	DATE ANAL	ID
SVOC's by GC/MS 625 cont'd				5	625	1227 16:10	1228 19:39	PS
3-Methylphenol/4-Methylphenol	ND	ug/l	6.0					
2,4,5-Trichlorophenol	ND	ug/l	5.0					
2,6-Dichlorophenol	ND	ug/l	10.					
Benzoic Acid	ND	ug/l	50.					
Benzyl Alcohol	ND	ug/l	10.					
Carbazole	ND	ug/l	5.0					
Surrogate(s)	Recovery		QC Criteria					
2-Fluorophenol	35.0	%	21-120					
Phenol-d6	28.0	%	10-120					
Nitrobenzene-d5	65.0	%	23-120					
2-Fluorobiphenyl	72.0	%	43-120					
2,4,6-Tribromophenol	82.0	%	10-120					
4-Terphenyl-d14	97.0	%	33-120					
Petroleum Hydrocarbon Quantitation by GC-FID				1	8015B(M)	1228 12:10	1228 16:36	MF
TPH	ND	ug/l	532					
Surrogate(s)	Recovery		QC Criteria					
o-Terphenyl	74.0	%	40-140					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA086 NH:200301-A CT:PH-0574 ME:MA086 RI:65 NY:11148 NJ:MA935 Army:USACE

Laboratory Sample Number: L0719015-02
Sample Matrix: RO REJECT GRAB WATER

Date Collected: 21-DEC-2007 11:00
Date Received : 21-DEC-2007
Date Reported : 08-JAN-2008

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2-Vial

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Volatile Organics by GC/MS 624				5 624		1228 10:49	MM
Methylene chloride	ND	ug/l	5.0				
1,1-Dichloroethane	ND	ug/l	1.5				
Chloroform	8.2	ug/l	1.5				
Carbon tetrachloride	ND	ug/l	1.0				
1,2-Dichloropropane	ND	ug/l	3.5				
Dibromochloromethane	ND	ug/l	1.0				
1,1,2-Trichloroethane	ND	ug/l	1.5				
2-Chloroethylvinyl ether	ND	ug/l	10.				
Tetrachloroethene	ND	ug/l	1.5				
Chlorobenzene	ND	ug/l	3.5				
Trichlorofluoromethane	ND	ug/l	5.0				
1,2-Dichloroethane	ND	ug/l	1.5				
1,1,1-Trichloroethane	ND	ug/l	2.0				
Bromodichloromethane	ND	ug/l	1.0				
trans-1,3-Dichloropropene	ND	ug/l	1.5				
cis-1,3-Dichloropropene	ND	ug/l	1.5				
Bromoform	ND	ug/l	1.0				
1,1,2,2-Tetrachloroethane	ND	ug/l	1.0				
Benzene	ND	ug/l	1.0				
Toluene	ND	ug/l	1.0				
Ethylbenzene	ND	ug/l	1.0				
Chloromethane	ND	ug/l	10.				
Bromomethane	ND	ug/l	5.0				
Vinyl chloride	ND	ug/l	2.0				
Chloroethane	ND	ug/l	2.0				
1,1-Dichloroethene	ND	ug/l	1.0				
trans-1,2-Dichloroethene	ND	ug/l	1.5				
cis-1,2-Dichloroethene	ND	ug/l	1.0				
Trichloroethene	ND	ug/l	1.0				
1,2-Dichlorobenzene	ND	ug/l	5.0				
1,3-Dichlorobenzene	ND	ug/l	5.0				
1,4-Dichlorobenzene	ND	ug/l	5.0				
p/m-Xylene	ND	ug/l	2.0				
o-xylene	ND	ug/l	1.0				
Xylene (Total)	ND	ug/l	2.0				
Styrene	ND	ug/l	1.0				
Acetone	ND	ug/l	10.				
Carbon disulfide	ND	ug/l	5.0				

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L0719015-02
RO REJECT GRAB

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP	DATE ANAL	ID
Volatile Organics by GC/MS 624 cont'd				5 624		1228 10:49	MM
2-Butanone	ND	ug/l	10.				
Vinyl acetate	ND	ug/l	20.				
4-Methyl-2-pentanone	ND	ug/l	10.				
2-Hexanone	ND	ug/l	10.				
Acrolein	ND	ug/l	8.0				
Acrylonitrile	ND	ug/l	10.				
Surrogate(s)	Recovery		QC Criteria				
Pentafluorobenzene	102	%	80-120				
Fluorobenzene	111	%	80-120				
4-Bromofluorobenzene	117	%	80-120				

Comments: Complete list of References and Glossary of Terms found in Addendum I

Attachment 4
Process Description

POTW Permit Number: 280
MADEP Sewer Connection Permit Number: 13144

Kopin Wastewater Pre-Treatment System Description

Industrial wastewater is generated from two processes at the Kopin facility. Acid waste from the manufacturing process flows via gravity into Tank #01 (T-01), located on the first floor of the Kopin facility. In addition, lab waste generated in the research labs of the facility flows via gravity into Tank #02 (T-02), which acts as an initial equalization tank. Acid waste from T-01 is metered into T-02, along with a lime slurry, that is pre-mixed in Tank #04 (T-04). The acid waste and lime slurry are then equalized with the lab waste prior to pH neutralization. T-02 is equipped with a mixer and outflow baffle. After equalization the wastewater flows via gravity to Tank #03 (T-03). Upon entering T-03 the pH is continuously monitored and controlled using sulfuric acid. T-03 is equipped with a mixer, pH sensor, pH controller, and outflow baffle. Once the pH has been brought to within a pre-set limit wastewater flows via gravity to Tank #05 (T-05). T-05 acts as a flocculation tank in which wastewater enters an initial chamber where rapid mixing takes place as a pre-mixed polymer is added to the incoming wastewater. T-05 is equipped with a variable frequency drive controlled mixer. This drive allows the mixer to be set at varying speeds to ensure that particle shearing does not take place. Note that this polymer is only used when water is being metered into the system from T-01 and being combined with the lime slurry. Once the wastewater and polymer have been mixed and solids separation has begun, the wastewater flows via gravity to Tank #06 (T-06). T-06 is a cone bottom fiberglass tank in which primary solids settling takes place. Separated solids are allowed to settle to the bottom of the tank while clear water flows via gravity through an up-flow baffle and into the final pH adjustment tank, Tank #08 (T-08). Once clear water enters T-08 the pH is continuously monitored and controlled using either sodium hydroxide or sulfuric acid. The tank is equipped with a mixer, pH sensor, pH controller, and outflow baffle. Once final pH adjustment is completed the treated effluent flows via gravity to the local Publicly Owned Treatment Works (POTW).

Once solids are settled in T-06 and have accumulated they are manually pumped to the sludge thickener, Tank #07 (T-07). T-07 is a cone bottom fiberglass tank equipped with multiple ports at various heights along the side of the tank. As solids and some wastewater build up in this tank and additional settling takes place, the clear water is decanted from the top of the sludge blanket and re-circulated to T-02 and sent back through the treatment process. Once a sufficient amount of solids have accumulated in T-07 they are pumped through a plate and frame filter press to be dewatered prior to disposal. Filtrate from the filter press returns to T-02 for equalization and is sent back through the treatment process.